

Remarks/Arguments:

Applicant acknowledges with appreciation that Claim 7 is allowed. Of the remaining claims, 1-6 are still pending, claims 8-83 were previously cancelled, and claims 84-90 have been added.

Claims 2 and 3 were previously determined, in the Office Action dated June 17, 2003, to be allowable if rewritten in independent form. Although Applicant attempted to do so in the response filed on October 6, 2003, the present Office Action asserts that the amendments introduced new matter and requires that the new matter be cancelled. Although Applicant disagrees with the assertion that new matter was added, Applicant is willing to amend, and has amended, claims 2 and 3 to more specifically incorporate the recitations of claim 1 as it was originally filed. In particular, claim 2 now includes all the recitations of claim 1, plus the original recitations of claim 2. Claim 3 now includes all the recitations of claims 1 and 2 as originally filed, plus the original recitations of claim 3. As claims 2 and 3 now include only the recitations that they originally included, either specifically or because of their respective dependencies, no new matter has been added.

Claims 84-86 were added to emphasize the fact that the coefficients a and b are determined using selected values for W and chroma value of a standard illuminant as taught by the specification as filed. No new matter was added.

Claims 1, and 2-6 were rejected as being obvious in light of *Ikeda et al* (US5017727, hereinafter *Ikeda*) and *Nishino et al.* (US4469798, hereinafter *Nishino*). The Applicant disagrees as the cited references are directed to non-analogous art, fail to teach, suggest, or motivate the recited claims, and modifying the references as suggested by the Office Action would change their principles of operation.

The present invention is directed to a method for evaluating whiteness of light emitted from a light source, and to do so in a non-subjective manner. The method requires that chroma C be calculated using a method defined by the CIE 1997 Interim Color Appearance Model (Simple Version). As such, the method requires calculating chroma C by calculating lightness J from a ratio of achromatic signals, a background induction factor n , and a saturation s where s is

computed using a number of formulae involving at least tristimulus values, an achromatic induction factor, a chromatic brightness factor and the background induction factor. The method also requires that the computed value of chroma C be plugged into a linear equation of the form $W=aC+b$ where the coefficient a is a negative real number and the coefficient b is a positive real number. It should be noted that the preferred method for calculating chroma C is through the use of automated method involving a spectrophotometer, and that coefficients a and b are preferably determined using the same equation, a second light source, and selected values for W where the values for W are selected such that subsequent calculations using the determined coefficients will likely result in values for W that range between 0 and 100.

In contrast, *Ikeda* is directed to toner compositions, and teaches evaluating the whiteness of a compound by first subjectively determining chroma C and value V by visually comparing the compound to color chips and then computing whiteness W using the formula $W_1: W=1-1/40\{C^2+[4(10-V)]^2\}^{1/2}$. As can be seen, the value W , if positive, is always less than or equal to 1.

The Office Action contends that claim 1 is obvious in light of *Ikeda*, i.e. that a subjective method for determining the whiteness of a compound obviates a non-subjective method for evaluating the whiteness of a light source. However, it is highly unlikely that a person of average skill in the art would have turned to a non-analogous patent on toner compounds to find a method for evaluating the whiteness of light from a light source.

The case of *In re Oetiker*, C.A.F.C., 977 F.2d 1443, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992) would appear to be pertinent to the assertion that *Ikeda* obviates claim 1.

In order to rely on a reference as a basis for rejection of the applicant's invention, , the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.
*** Patent examination is necessarily conducted by hindsight, with complete knowledge of the applicant's invention, and the courts have recognized the subjective aspects of determining whether an inventor would reasonably be motivated to go to the field in which the examiner found the reference, in order to solve

the problem confronting the inventor. We have reminded ourselves and the PTO that it is necessary to consider "the reality of the circumstances" *** – in other words, common sense – in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.

It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments. The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself. (Underline added.)

Even if one of average skill would have turned to the method of *Ikeda*, that method differs from the claimed method, in three significant ways. One is that the *Ikeda* method is directed to determining the whiteness of a compound, i.e. of a surface reflecting light from some other source. A second is that the formula used to calculate whiteness in *Ikeda* is significantly different than the formula recited in claim 1. The third is that the method for determining a chroma value to be used in the formulas are different.

The Office Action attempts to overcome the inadequacies of *Ikeda* by (a) asserting that it would have been obvious to replace the calculating method of *Ikeda* with the method recited in claim 1 because "they function in the same manner", and (b) asserting that the equation W1 is in the same form as the equation of claim 1.

Applicant is unable to determine the basis by which the Office Action asserts that two methods differing in the ways identified above can be said to function in the same manner. The Office Action doesn't even attempt to assert that the methods for calculating chroma are identical. Moreover, equation W1 is only in the same form as the claimed formula if one causes the $[4(10-V)]^2$ term to drop out of the formula W1. Whether using an alternative method for calculating C

or eliminating the use of V , such a modification to *Ikeda* changes its principle of operation, and cannot properly be used to reject the claims on the basis of obviousness.

Even if modifying *Ikeda* as proposed would not change its principle of operation, it is important to note that the issue is whether the formulas themselves are used in calculating whiteness, not whether they give the same or similar values. The formula taught by *Ikeda* incorporates a variable V . Although when $V=10$, the whiteness value determined by the formula $W1$ may be similar to the value determined by the claimed formula, the claimed formula still would not have been used to compute the value. As such, even when the value of V is 10, the method of *Ikeda* differs from the claimed method because the computation that is actually made is to subtract 10 from 10, multiply the result times 4, square that result, add that value to the value of chroma squared, compute the square root of the result, divide the square root value by 40 and subtract the result from one. This is substantially different from multiply the chroma value by a negative real number and adding 100 to the result.

It should also be noted that, even if the claimed method for calculating chroma is used in *Ikeda*, and even if the use of V is eliminated as suggested, *Ikeda* would only teach the use of a single value $(-1/40)$ for a , and a single value (1) for b . As such, it still would not teach or suggest the use of alternative values for a and b such as -5.3 , -3.3 , or -4.4 for a and 100 for b . It also would not teach or suggest determining a and b using the chroma light from a standard illuminant, and selected values for W .

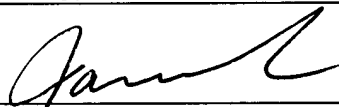
Claims 2-6 are allowable at least because of their dependence on claim 1. Moreover, as the Office Action points out, *Ikeda* fails to teach or suggest all the recitations of claims 2-6. The Office Action attempts to overcome the recognized deficiencies of *Ikeda* by combining it with *Nishino*. In doing so, the Office Action asserts that it would have been obvious to choose different values for the coefficients used in *Ikeda*, that the different values could be selected from another whiteness formula, and because that other formula in a particular instance uses a variable having a value of 100, and because another variable that is a negative real number, that doing so obviates claims 2-6. However, *Nishino* utilizes a formula for calculating whiteness that is significantly different from the claimed formula and the formula of *Ikeda*. As such, there is no

basis for suggesting that the coefficients of *Nishino* can be substituted for those of *Ikeda*, nor is there any reason for doing so since the equations are not equivalent, and *Ikeda* does not contemplate the use of different coefficients.

In regard to added claims 84-90, none of the cited references teach or suggest the method claimed for the reasons given in regard to claims 1-6, and none of the cited references teach or suggest such a method where the coefficients *a* and *b* are determined using selected values for *W* and chroma value of a standard illuminant.

It is believed that the case is now in condition for allowance, and an early notification of the same is requested. If the Examiner believes that a telephone interview will help further the prosecution of this case, he is respectfully requested to contact the undersigned attorney at the listed telephone number.

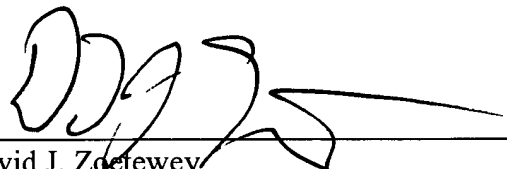
I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 20, 2004.

By: James Lee

Signature

Dated: April 20, 2004

Very truly yours,

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